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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,580	06/27/2003	Robert A. Bellman	SP01-346A	8415
22928	7590	11/08/2006		
CORNING INCORPORATED			EXAMINER	
SP-TI-3-1			HOFFMANN, JOHN M	
CORNING, NY 14831			ART UNIT	PAPER NUMBER

1731

DATE MAILED: 11/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/608,580

Applicant(s)

BELLMAN ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. §.133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,6,13,26 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6,13,26 and 30 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 4, 26, 30, 6 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 now requires that the layer is "suitable for photonic devices"

The term "suitable" is a word of degree which is imprecise unless a definition or guideline has been set forth in the specification or the term is otherwise well known in the art. See Seattle Box Co. v. Industrial Crating and Packing, Inc., 731 F.2d 818, 826, 221 USPQ 568, 574 (Fed. Cir. 1984). However, there is no evidence in application (nor is Examiner aware of any evidence) that the words "suitable for photonic devices" have any art-recognized meaning. Nor is there any guidance or definition in the specification that would allow one of ordinary skill in the art to understand the meaning of the words. It is noted that applicant's invention is not very suitable for all photonic devices – for example a halide-based IR device. So whereas applicant argues that Adams layer has defects and roughness, one would not be able to ascertain what level of defects/roughness/etc. constitutes a "suitable" level – or what level would make the material unsuitable for photonic devices.

Claim 26 uses the term "standard" : It is unclear as to when the techniques must be the standard – at the time of the invention, or at the time of allowance (if found to be allowable). Also, it is unclear if they apply to standard photolithographic techniques of only waveguides, or does it apply to those of semiconductors also. Also, it is unclear if they are the standard of only the USA, or if they are standard in other countries as well.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 26, 30 and 13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Adams 3582395.

See col. 1, lines 28-31, claim 3 and Example 6 which disclose the invention. Although Adams only refers to decomposition, it is inherent that oxygen was supplied from somewhere, because the process creates titania-silica coatings (example 6) but there is insufficient oxygen in the precursor compound. The compound inherently had to react with oxygen. Alternatively, Adams reaction is a "decomposition reaction". Although Adams does not characterize the coating as glass, one would immediately infer from Adams's "metal oxide films", and "silica" that the coating is glass. Alternatively, the Example 6 fire polishing would form it into glass.

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From MPEP 2144.01 Implicit Disclosure:

"[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

See also, *In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir 1985).

As to the new "suitable for photonic devices" – it is deemed that it suitable for substrate onto which one can bond a photonic devices.

Claim 4: see col. 1, line 42 which teaches the compound can be applied in vaporized form. It is deemed that this reads on "CVD"

Claim 26: It is deemed that Adams's final device could be considered a waveguide. See figure 17a of Imoto US Patent 4856859 which shows that a layer can be a waveguide. The fire polishing and the inherent subsequent cooling are deemed to be "photolithographic techniques": Col. 1, lines 12-21 of Miyazaki 5882371 indicates that heating and cooling are parts of a photolithographic process. It is deemed that such parts constitute "techniques". It is noted that the term "photolithographic techniques" is not defined, explained or exemplified in the present specification. It is deemed that the broadest reasonable interpretation of the term is that it includes substantially any technique that is used in any photolithographic process.

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The PTO gives a disputed claim term its broadest reasonable interpretation during patent prosecution. Hyatt, 211 F.3d at 1372. The "broadest reasonable interpretation" rule recognizes that "before a patent is granted the claims are readily amended as part of the examination process." Burlington Indus. v. Quigg, 822 F.2d 1581, 1583 (Fed. Cir. 1987). Thus, a patent applicant has the opportunity and responsibility to remove any ambiguity in claim term meaning by amending the application. In re Prater, 415 F.2d 1393, 1404-05 (CCPA 1969). Additionally, the broadest reasonable interpretation rule "serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified." In re Am. Acad. of Sci. Tech. Ctr., 367 F.3d 1359, 1364 (Fed. Cir. 2004) (quoting In re Yamamoto, 740 F.2d 1569, 1571-72 (Fed. Cir. 1984)).

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adams 3582395 as applied to claim 1, and further in view of Antos 5296012 and Blackwell 5154744.

Adams does not disclose the use of PECVD. However, it is "well-known" that PECVD is used to make preforms for optical fibers (Antos, col.1, lines 9-14) and that they are doped with TiO₂ from a chloride (Antos, col. 1, line 43-46).

Blackwell teaches that use of chlorides is problematic (col. 1, lines 32-52) and that Ti doping gives "superior strength" (col. 2, lines 13-22). Also, col. 4, lines 19-32 teaches that the use of titanium isopropoxide can be used in conventional fiber making methods.

Adams teaches that a trimethylsilyloxiide (that reads on the present claimed precursor) is stable and is little affected by heat and moisture (Col. 2, lines 24-29). Col. 2, lines 37-38 of Adams also discloses that Blackwell's precursor is "very sensitive" to moisture and this is problematic (col. 1, line 49-57) That such precursor can be used instead of titanates or as a stabilizer thereto (col. 1, lines 58-68 and elsewhere).

It would have been obvious to use titanium oxide as the dopant in the (Antos) PECVD method of making fibers, for the superior strength thereof, and furthermore to use the trimethylsilyloxiide in one of the two manners that Adams teaches, so as to avoid the problem of chlorine and for the stability of the trimethylsilyloxiide.

As to the glass having one of the specific ratios: it would have been obvious to have as much of a dopant as desired – depending upon the desired optical and mechanical properties. Alternatively, it would have been obvious to perform routine experimentation to determine the optimal amount of Ti.

Response to Arguments

Applicant's arguments filed 14 September 2006 have been fully considered but they are not persuasive.

Applicant refers to evidence for "standard semiconductor techniques" and "conventional lithographic techniques". This is deemed not very relevant because these terms are different from the present claim terminology. Applicant also refers to the Henry patent which refers to "standard photolithography techniques and etching techniques". Again, this gives no indication as to when or where the techniques are standard.

Regarding Adams it is argued that Applicant's invention the titanate is used as a neat material – whereas Adams uses titanate in a solvent. This is deemed to be irrelevant because the claims are comprising in nature and thus are open to using a solvent.

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It is also argued that the use of a solvent can effect the optical properties of the glass such that it is not suitable for photonic applications.

From MPEP 2145 Consideration of Applicant's Rebuttal Arguments

I. ARGUMENT DOES NOT REPLACE EVIDENCE WHERE EVIDENCE IS NECESSARY

Attorney argument is not evidence unless it is an admission, in which case, an examiner may use the admission in making a rejection. See MPEP § 2129 and § 2144.03 for a discussion of admissions as prior art.

The arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) ("An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness."). See MPEP § 716.01(c) for examples of attorney statements which are not evidence and which must be supported by an appropriate affidavit or declaration.

Adams makes the same material from the same precursor. Thus there is presumption that the same material would have substantially the same optical property that applicant has. Applicant has offered no evidence that the Adams material would not be suitable photonic devices.

It is also argued that the planar photonic devices require precise control of the refractive index. This is largely immaterial because the claims do not require a step of making a device. Rather the claim only requires making a layer.

Applicant points out that using Adams aerosol results in rough surfaces and impurities and that this would be unacceptable for photonic devices. There is no indication that applicant's layer is completely devoid of all roughness, impurities and scattering. Examiner appreciates that applicant may have very high standard for what is acceptable/suitable – but there is no reflection of the standard in the claims. In other words, the claims are open to materials that could be used in "mediocre at best" type

devices. More importantly, the layer could be used as a substrate onto which one can bond a photonic device. The claims do not limit in what way the layer must be suitable.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Thus it does not matter that Adams does not have all of the limitations of claim 6- the rejection is not based on such a premise.

In response to applicant's argument that combining Antos's and Adams components would result in the same problem that Antos is trying to avoid, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Presently, Antos teaches how to avoid the problem- thus one would combine Adams in a manner consistent with Antos teaching. The same applies to Blackwell.

Furthermore, applicant only argues that a particular combination of the references would not result in the claimed invention. This is largely irrelevant because the Office never indicated that every possible combination would have been obvious. Rather the Office set forth a particular combination with specific motivational reasoning. Applicant has not disagreed with the combination or has otherwise pointed out (clearly

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and specifically) any error in the combination. Thus it is deemed that applicant could not locate any error – and thus acquiesces that the combination is both proper and reads on the claimed invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

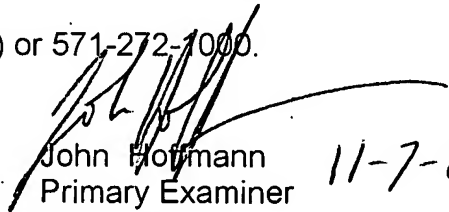
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


John Hoffmann
Primary Examiner
Art Unit 1731

11-7-06

jmh